

Class : XIth
Date :

Subject : BIOLOGY
DPP No. : 2

Topic :- Cell the Unit of Life

1. Chemiosmotic theory of ATP synthesis in the chloroplasts and mitochondria is based on
 - a) Proton gradient
 - b) Accumulation of K ions
 - c) Accumulation of Na ions
 - d) Membrane potential
2. Polysome is formed by
 - a) Several ribosomes attached to a single mRNA
 - b) Many ribosomes attached to a strand of endoplasmic reticulum
 - c) A ribosome with several subunits
 - d) Ribosomes attached to each other in a linear arrangement
3. In eukaryotic cell, plasmodesma is lined by plasma membrane. It encloses tubular extension of endoplasmic reticulum called
 - a) Microtubule
 - b) Microfilament
 - c) Tubule
 - d) Desmotubule
4. The factors which set the limit of cell size or volume are
 - I. nucleo-cytoplasmic or kern-plasma ratio
 - II. rate of metabolic activity
 - III. ability of oxygen and other materials to reach every part of the cell
 - IV. ability of waste products to pass to the outside
 - V. ratio of surface area to the volume of the cellIdentify the correct set of statements
 - a) III and IV
 - b) I and II
 - c) Only V
 - d) I, II, III and IV
5. The difference between rough endoplasmic reticulum and smooth endoplasmic reticulum is that rough endoplasmic reticulum
 - a) Does not contain ribosomes
 - b) Contains ribosomes
 - c) Does not transport proteins
 - d) Transport proteins
6. Cilia are
 - a) Short (5-10 μ m) hair-like narrow protoplasmic process
 - b) With sweeping or pendular movements
 - c) More numerous
 - d) All of the above

7. The enzyme DNA polymerase was discovered by
 a) Kornberg b) Okazaki c) Watson and Crick d) Stahl and Meselson
8. Plant cells possess
 a) Cell wall and central vacuole b) Cell wall only
 c) Cell wall and plastids d) Cell wall, plastids and large central vacuole
9. Which of the following statements are correct?
 I. Occurrence of different types of tissues, organs and organ system results in division of labour
 II. A new cell always develops by the division of a pre-existing cells
 III. Cells are totipotent
 IV. Cell is the smallest unit, capable of independent existence and performing the essential functions of life
 The correct option is
 a) I, II and III b) I, III and IV c) II, III and IV d) I, II, III and IV
10. Which of the following features are correct regarding ribosomes?
 I. Non-membrane bound
 II. Absent in plastids and mitochondria
 III. Present in the cytoplasm and RER
 IV. Take part in protein synthesis
 The correct option is
 a) Only II b) I and II c) I, II, III and IV d) I, III and IV
11. In prokaryotic cell,
 I. enveloped genetic material is present
 II. ribosomes are absent
 III. an organised nucleus is absent
 The correct option is
 a) Only I b) Only II c) Only III d) I, II and III
12. In a DNA molecule, distance between two bases is
 a) 2 nm/20Å b) 0.2 nm/2Å c) 3.4 nm/34Å d) 0.34 nm/3.4Å
13. Antiparallel strands of a DNA molecule means that
 a) One strand turns anti-clockwise
 b) The phosphate groups of two DNA strands at their ends, share the same position
 c) The phosphate groups at the start of two DNA strands are in opposite position (pole)
 d) One strand turns clockwise

14. Arrange the following steps in a correct sequence as per Gram's staining technique
- I. Treatment with 0.5% iodine solution
 - II. Washing with water
 - III. Treatment with absolute alcohol/acetone
 - IV. Staining with weak alkaline solution of crystal violet
- The correct sequence is
- a) II→I→IV→III b) IV→I→II→III c) III→II→I→IV d) I→IV→III→II
15. In eukaryotes, basic structural unit made up of histone and DNA is
- a) Nucleosome b) Nucleolus c) Chromosome d) Lysosome
16. Choose the correct statement from the codes given below
- I. Separation from extracellular medium allows the cells to maintain its chemical pool, orderliness of structure and reactions in contrast to disorderly distribution and randomly interacting molecules in the extra-cellular medium
 - II. Cells are unable to recognise one another due to the present of specific chemicals on their surface
 - III. Cells of plant tissues are often connected with one another through cytoplasmic bridges called plasmodesmata
 - IV. Different cells of an organism communicate as well as exchange materials with one another
- a) II and III b) I and II c) I, III and IV d) I, II, III and IV
17. DNA multiplication is called
- a) Translation b) Replication c) Transduction d) Transcription
18. Ribosomes are found in
- a) Cytoplasm and nucleus b) Golgi complex and nucleus
c) Mitochondria and bacterial cell d) Endoplasmic reticulum and Golgi complex
19. In protoplasm, fat store in the form of
- a) Polypeptide b) Triglyceride c) Polysaccharide d) Nucleoside
20. Spindles are formed by
- a) Microtubules b) Endoplasmic reticulum
c) Golgi body d) Peroxisomes